

**Index to Volume 31**

2001

Volume 31, Number 1

January

PAPERS

- A. Demirbaş, T. Öztürk, F.Ö. Karataş:** Long-term wear on outside walls of buildings by sulfur dioxide corrosion 3
- G.A. Rao:** Influence of silica fume on long-term strength of mortars containing different aggregate fractions 7
- S.J. Barnett, C.D. Adam, A.R.W. Jackson:** An XRPD profile fitting investigation of the solid solution between ettringite, $\text{Ca}_6\text{Al}_2(\text{SO}_4)_3(\text{OH})_{12} \cdot 26\text{H}_2\text{O}$, and carbonated ettringite, $\text{Ca}_6\text{Al}_2(\text{CO}_3)_3(\text{OH})_{12} \cdot 26\text{H}_2\text{O}$ 13
- D. Li, J. Shen, L. Chen, X. Wu:** The influence of fast-setting/early-strength agent on high phosphorous slag content cement 19
- S. Alonso, A. Palomo:** Calorimetric study of alkaline activation of calcium hydroxide–metakaolin solid mixtures 25
- S. Hanehara, F. Tomosawa, M. Kobayakawa, K. Hwang:** Effects of water/powder ratio, mixing ratio of fly ash, and curing temperature on pozzolanic reaction of fly ash in cement paste 31
- J. Payá, M.V. Borrachero, J. Monzó, E. Peris-Mora, F. Amahjour:** Enhanced conductivity measurement techniques for evaluation of fly ash pozzolanic activity 41
- J.O. Odigure:** Optimization of cement mortar strength from raw mix containing metallic particles 51
- J. Payá, J. Monzó, M.V. Borrachero:** Physical, chemical and mechanical properties of fluid catalytic cracking catalyst residue (FC3R) blended cements 57
- V. Morin, F.C. Tenoudji, A. Feylessoufi, P. Richard:** Superplasticizer effects on setting and structuration mechanisms of ultrahigh-performance concrete 63
- C. Rocco, G.V. Guinea, J. Planas, M. Elices:** Review of the splitting-test standards from a fracture mechanics point of view 73
- G. Xiong, X. Chen, G. Li, L. Chen:** Sulphuric acid resistance of soluble soda glass–polyvinyl acetate latex–modified cement mortar 83
- P.-K. Chang, Y.-N. Peng:** Influence of mixing techniques on properties of high performance concrete 87
- K.-S. Wang, K.-L. Lin, Z.-Q. Huang:** Hydraulic activity of municipal solid waste incinerator fly-ash-slag-blended eco-cement 97
- E.P. Kearsley, P.J. Wainwright:** The effect of high fly ash content on the compressive strength of foamed concrete 105

K. Wu, A. Yan, W. Yao, D. Zhang: Effect of metallic aggregate on strength and fracture properties of HPC	113
COMMUNICATIONS	
S.L. Sarkar, J. Wheeler: Important properties of an ultrafine cement — Part I	119
S.L. Sarkar, J. Wheeler: Microstructural development in an ultrafine cement — Part II	125
S. Wen, D.D.L. Chung: Electrical behavior of cement-based junctions including the pn-junction	129
T. Vuk, V. Tinta, R. Gabrovšek, V. Kaučič: The effects of limestone addition, clinker type and fineness on properties of Portland cement	135
S. Wen, D.D.L. Chung: Electric polarization in carbon fiber-reinforced cement	141
J.J. Beaudoin, S. Catinaud, J. Marchand: Volume stability of calcium hydroxide in aggressive solutions	149
DISCUSSIONS	
H. Vaupel, I. Odler: A discussion of the paper "Microstructural investigations on aerated concrete" by B.N. Narayanan and K. Ramamurthy	153
N. Narayanan, K. Ramamurthy: Reply to the discussion by H. Vaupel and I. Odler of the paper "Microstructural investigations on aerated concrete"	155
W.G. Hime, S.L. Marusin: A discussion of the paper "Chemical changes in concrete due to the ingress of chemical species" by P.W. Brown and April Doerr	157
P.W. Brown, A. Doerr: Reply to the discussion by William G. Hime and Stella L. Marusin of the paper "Chemical changes in concrete due to the ingress of chemical species"	159
J. Bensted, J. Munn: A discussion of the paper "The use of waste ceramic tile in cement production" by N. Ay and M. Ünal	161
N. Ay, M. Ünal: Reply to the discussion by J. Bensted and J. Munn of the paper "The use of waste ceramic tile in cement production"	163
BOOK REVIEW	
T. Krauthammer: Reinforced Concrete Slabs, 2nd edition; by Robert Park and William L. Garbale	165
NEWS ITEMS	167

PAPERS

G.A. Rao: Long-term drying shrinkage of mortar — influence of silica fume and size of fine aggregate	171
J. Cabrera, M.F. Rojas: Mechanism of hydration of the metakaolin–lime–water system	177
L. Nachbaur, J.C. Mutin, A. Nonat, L. Choplin: Dynamic mode rheology of cement and tricalcium silicate pastes from mixing to setting	183
B. Persson: A comparison between mechanical properties of self-compacting concrete and the corresponding properties of normal concrete	193

B. Persson: A NORDTEST method for verification of self-desiccation in concrete	199
A.W. Saak, H.M. Jennings, S.P. Shah: The influence of wall slip on yield stress and viscoelastic measurements of cement paste	205
J. Chang, X. Cheng, F. Liu, L. Lu, B. Teng: Influence of fluorite on the Ba-bearing sulphoaluminate cement	213
J.K. Kim, S.H. Han, K.M. Lee: Estimation of compressive strength by a new apparent activation energy function	217
J. Payá, J. Monzó, M.V. Borrachero, A. Mellado, L.M. Ordoñez: Determination of amorphous silica in rice husk ash by a rapid analytical method	227
M. Castellote, C. Alonso, C. Andrade, P. Castro, M. Echeverría: Alkaline leaching method for the determination of the chloride content in the aqueous phase of hardened cementitious materials	233
N.B. Singh, S. Rai: Effect of polyvinyl alcohol on the hydration of cement with rice husk ash	239
C.F. Ferraris, K.H. Obla, R. Hill: The influence of mineral admixtures on the rheology of cement paste and concrete	245
C. Evju, S. Hansen: Expansive properties of ettringite in a mixture of calcium aluminate cement, Portland cement and β -calcium sulfate hemihydrate	257
T. Apih, G. Lahajnar, A. Sepe, R. Blinc, F. Milia, R. Cvelbar, I. Emri, B.V. Gusev, L.A. Titova: Proton spin-lattice relaxation study of the hydration of self-stressed expansive cement	263
W. Prince, G. Castanier, J.L. Giafferi: Similarity between alkali-aggregate reaction and the natural alteration of rocks	271
L. Cui, J.H. Cahyadi: Permeability and pore structure of OPC paste	277
COMMUNICATIONS	
J.C. Kim, S.Y. Hong: Liquid concentration changes during slag cement hydration by alkali activation	283
H. Hong, Z. Fu, X. Min: Effect of cooling performance on the mineralogical character of Portland cement clinker	287
S. Wen, D.D.L. Chung: Effect of stress on the electric polarization in cement	291
S. Wen, D.D.L. Chung: Uniaxial compression in carbon fiber-reinforced cement, sensed by electrical resistivity measurement in longitudinal and transverse directions	297
B.J. Magee, M.G. Alexander: Simple test method to assess the relative effectiveness of plasticising chemical admixtures	303
J. Cao, D.D.L. Chung: Improving the dispersion of steel fibers in cement mortar by the addition of silane	309
B. Sioulas, J.G. Sanjayan: The coloration phenomenon associated with slag blended cements	313
M.J. McCarthy, P.A.J. Tittle, K.H. Kii, R.K. Dhir: Mix proportioning and engineering properties of conditioned PFA concrete	321
W. Sha, G.B. Pereira: Differential scanning calorimetry study of hydrated ground granulated blast-furnace slag	327
T. Bakharev, J.G. Sanjayan, Y.-B. Cheng: Resistance of alkali-activated slag concrete to alkali-aggregate reaction	331

TECHNICAL NOTE

- P. Yan, X. Qin:** The effect of expansive agent and possibility of delayed ettringite formation in shrinkage-compensating massive concrete 335

NEWS ITEMS

339

2001

Volume 31, Number 3

March

PAPERS

- W. Ahn, D.V. Reddy:** Galvanostatics testing for the durability of marine concrete under fatigue loading 343
- R.A. Olson, H.M. Jennings:** Estimation of C-S-H content in a blended cement paste using water adsorption 351
- J. Schulze, O. Killermann:** Long-term performance of redispersible powders in mortars 357
- H.C. Rhim:** Condition monitoring of deteriorating concrete dams using radar 363
- K. Yamada, S. Ogawa, S. Hanehara:** Controlling of the adsorption and dispersing force of polycarboxylate-type superplasticizer by sulfate ion concentration in aqueous phase 375
- Y. Li, S. Hu:** The microstructure of the interfacial transition zone between steel and cement paste 385
- B. Persson:** Correlating laboratory and field tests of creep in high-performance concrete 389
- K. Callebaut, J. Elsen, K. Van Balen, W. Viaene:** Nineteenth century hydraulic restoration mortars in the Saint Michael's Church (Leuven, Belgium): Natural hydraulic lime or cement? 397
- T. Chotard, N. Gimet-Breart, A. Smith, D. Fargeot, J.P. Bonnet, C. Gault:** Application of ultrasonic testing to describe the hydration of calcium aluminate cement at the early age 405
- N. Bouzoubaâ, M. Lachemi:** Self-compacting concrete incorporating high volumes of class F fly ash: Preliminary results 413
- A.R. Brough, A. Atkinson:** Micro-Raman spectroscopy of thaumasite 421
- K. Kolovos, P. Loutsis, S. Tsivilis, G. Kakali:** The effect of foreign ions on the reactivity of the $\text{CaO-SiO}_2\text{-Al}_2\text{O}_3\text{-Fe}_2\text{O}_3$ system: Part I. Anions 425
- K.O. Ampadu, K. Torii:** Characterization of ecocement pastes and mortars produced from incinerated ashes 431
- R. Yang, N.R. Buenfeld:** Binary segmentation of aggregate in SEM image analysis of concrete 437
- G.A. Rao:** Role of water-binder ratio on the strength development in mortars incorporated with silica fume 443
- M.Y. Benarchid, A. Diouri, A. Boukhari, J. Aride, R. Castanet, J. Rogez:** Thermal study of chromium-phosphorus-doped tricalcium aluminate 449
- D.A. Hall, R. Stevens, B. El-Jazairi:** The effect of retarders on the microstructure and mechanical properties of magnesia-phosphate cement mortar 455

N.Y. Mostafa, S.A.S. El-Hemaly, E.I. Al-Wakeel, S.A. El-Korashy, P.W. Brown: Characterization and evaluation of the pozzolanic activity of Egyptian industrial by-products: Part I. Silica fume and dealuminated kaolin	467
N.Y. Mostafa, S.A.S. El-Hemaly, E.I. Al-Wakeel, S.A. El-Korashy, P.W. Brown: Hydraulic activity of water-cooled slag and air-cooled slag at different temperatures	475
F. Sandrolini, E. Franzoni: Waste wash water recycling in ready-mixed concrete plants	485
I. Kula, A. Olgun, Y. Erdogan, V. Sevinc: Effects of colemanite waste, cool bottom ash, and fly ash on the properties of cement	491
G.A. Rao: Generalization of Abrams' law for cement mortars	495
D.P. Bentz, J.T. Conway: Computer modeling of the replacement of "coarse" cement particles by inert fillers in low w/c ratio concretes: Hydration and strength	503
COMMUNICATION	
S. Wen, D.D.L. Chung: Cement-based thermocouples	507
DISCUSSIONS	
J. Bensted, J. Munn: A discussion of the paper "Thaumasite formation in Portland-limestone cement pastes" by S.A. Hartshorn, J.H. Sharp and R.N. Swamy	511
S.A. Hartshorn, J.H. Sharp, R.N. Swamy: Reply to the discussion by J. Bensted and J. Munn of the paper "Thaumasite formation in Portland-limestone cement pastes"	513
NEWS ITEMS	515

2001

Volume 31, Number 4

April

PAPERS

M. Frías, J. Cabrera: Influence of MK on the reaction kinetics in MK/lime and MK-blended cement systems at 20°C	519
P. Castro, O.T. De Rincon, E.J. Pazini: Interpretation of chloride profiles from concrete exposed to tropical marine environments	529
P.K. Kolay, D.N. Singh: Physical, chemical, mineralogical, and thermal properties of cenospheres from an ash lagoon	539
A.K. Fisher, F. Bullen, D. Beal: The durability of cellulose fibre reinforced concrete pipes in sewage applications	543
K. Velez, S. Maximilien, D. Damidot, G. Fantozzi, F. Sorrentino: Determination by nanoindentation of elastic modulus and hardness of pure constituents of Portland cement clinker	555
M.-P. Pomiès, N. Lequeux, P. Boch: Speciation of cadmium in cement: Part I. Cd ²⁺ uptake by C-S-H	563
M.-P. Pomiès, N. Lequeux, P. Boch: Speciation of cadmium in cement: Part II. C ₃ S hydration with Cd ²⁺ solution	571
J. Csizmadia, G. Balázs, F.D. Tamás: Chloride ion binding capacity of aluminoferrites	577

P. Novak, R. Mala, L. Joska: Influence of pre-rusting on steel corrosion in concrete	589
W. Sun, H. Chen, X. Luo, H. Qian: The effect of hybrid fibers and expansive agent on the shrinkage and permeability of high-performance concrete	595
J. Zhang, P.J.M. Monteiro: Validation of resistivity spectra from reinforced concrete corrosion by Kramers-Kronig transformations	603
N. Su, Y.-N. Peng: The characteristics and engineering properties of dry-mix/steam-injection concrete	609
M. Castellote, C. Alonso, C. Andrade, G.A. Chadborn, C.L. Page: Oxygen and chloride diffusion in cement pastes as a validation of chloride diffusion coefficients obtained by steady-state migration tests	621
K. Quillin, G. Osborne, A. Majumdar, B. Singh: Effects of w/c ratio and curing conditions on strength development in BRECEM concretes	627
A. Moropoulou, A. Bakolas, E. Aggelakopoulou: The effects of limestone characteristics and calcination temperature to the reactivity of the quicklime	633
C. Solberg, S. Hansen: Dissolution of $\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}$ and precipitation of $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$: A kinetic study by synchrotron X-ray powder diffraction	641
O.M. Jensen, P.F. Hansen: Water-entrained cement-based materials: I. Principles and theoretical background	647
COMMUNICATIONS	
A. Shayan, H. Morris: A comparison of RTA T363 and ASTM C1260 accelerated mortar bar test methods for detecting reactive aggregates	655
S. Wen, D.D.L. Chung: Carbon fiber-reinforced cement as a strain-sensing coating	665
J. Cao, D.D.L. Chung: Degradation of the bond between concrete and steel under cyclic shear loading, monitored by contact electrical resistance measurement	669
S. Wen, D.D.L. Chung: Effect of admixtures on the dielectric constant of cement paste	673
NEWS ITEMS	679

2001

Volume 31, Number 5

May

REVIEW

H.F.W. Taylor, C. Famy, K.L. Scrivener: Delayed ettringite formation	683
---	-----

PAPERS

J.I. Escalante-García, J.H. Sharp: The microstructure and mechanical properties of blended cements hydrated at various temperatures	695
P. Gao, M. Deng, N. Feng: The influence of superplasticizer and superfine mineral powder on the flexibility, strength and durability of HPC	703
K.K. Sagoe-Crentsil, T. Brown, A.H. Taylor: Performance of concrete made with commercially produced coarse recycled concrete aggregate	707

- S.M. Trépanier, B.B. Hope, C.M. Hansson:** Corrosion inhibitors in concrete: Part III. Effect on time to chloride-induced corrosion initiation and subsequent corrosion rates of steel in mortar 713
- P. Robins, S. Austin, J. Chandler, P. Jones:** Flexural strain and crack width measurement of steel-fibre-reinforced concrete by optical grid and electrical gauge methods 719
- A. Yahia, K.H. Khayat:** Analytical models for estimating yield stress of high-performance pseudoplastic grout 731
- A. Saccani, V. Bonora, P. Monari:** Laboratory short-term evaluation of ASR: A contribution 739
- M. Drabik, S.C. Mojumdar, L. Galikova:** Changes of thermal events of macrodefect-free (MDF) cements due to the deterioration in the moist atmosphere 743
- A. Yahia, K.H. Khayat:** Experiment design to evaluate interaction of high-range water-reducer and antiwashout admixture in high-performance cement grout 749
- A. Boddy, R.D. Hooton, K.A. Gruber:** Long-term testing of the chloride-penetration resistance of concrete containing high-reactivity metakaolin 759
- F.H. Heukamp, F.-J. Ulm, J.T. Germaine:** Mechanical properties of calcium-leached cement pastes: Triaxial stress states and the influence of the pore pressures 767
- W. Prince, R. Gagné:** The effects of types of solutions used in accelerated chloride migration tests for concrete 775
- Th.M. Salem, Sh.M. Ragai:** Electrical conductivity of granulated slag cement kiln dust-silica fume pastes at different porosities 781
- V. Saraswathy, S. Muralidharan, R.M. Kalyanasundaram, K. Thangavel, S. Srinivasan:** Evaluation of a composite corrosion-inhibiting admixture and its performance in concrete under macrocell corrosion conditions 789
- C. Famy, K.L. Scrivener, A. Atkinson, A.R. Brough:** Influence of the storage conditions on the dimensional changes of heat-cured mortars 795
- E.P. Kearsley, P.J. Wainwright:** Porosity and permeability of foamed concrete 805
- C. Shi, R.L. Day:** Comparison of different methods for enhancing reactivity pozzolans 813
- J.P. Baltrus, R.B. LaCount:** Measurement of adsorption of air-entraining admixture on fly ash in concrete and cement 819
- COMMUNICATION**
- L. Turanli, K. Shomglin, C.P. Ostertag, P.J.M. Monteiro:** Reduction in alkali-silica expansion due to steel microfibers 825
- T.U. Mohammed, N. Otsuki, H. Hamada:** Oxygen permeability in cracked concrete reinforced with plain and deformed bars 829
- DISCUSSIONS**
- T.U. Mohammed, H. Hamada:** A discussion of the paper "Chloride threshold values to depassivate reinforcing bars embedded in a standardized OPC mortar" by C. Alonso, C. Andrade, M. Castellote, and P. Castro 835

- C. Alonso, C. Andrade, M. Castellote, P. Castro:** Reply to the discussion by T.U. Mohammed and H. Hamada of the paper "Chloride threshold values to depassivate reinforcing bars embedded in a standardized OPC mortar" 839

NEWS ITEMS 841

2001

Volume 31, Number 6

June

REVIEW

- M. Santhanam, M.D. Cohen, J. Olek:** Sulfate attack research — whither now? 845

PAPERS

- V.L. Bonavetti, V.F. Rahhal, E.F. Irassar:** Studies on the carboaluminate formation in limestone filler-blended cements 853

- Ş. Erdoğan, T.W. Bremner, I.L. Kondratova:** Accelerated testing of plain and epoxy-coated reinforcement in simulated seawater and chloride solutions 861

- M.A. Trezza, A.E. Lavat:** Analysis of the system $3\text{CaO}\cdot\text{Al}_2\text{O}_3\text{--CaSO}_4\cdot 2\text{H}_2\text{O--CaCO}_3\text{--H}_2\text{O}$ by FT-IR spectroscopy 869

- C.S. Poon, S.C. Kou, L. Lam, Z.S. Lin:** Activation of fly ash/cement systems using calcium sulfate anhydrite (CaSO_4) 873

- M.C.G. Juenger, H.M. Jennings:** The use of nitrogen adsorption to assess the microstructure of cement paste 883

- I. Juel, E. Jøns:** The influence of earth alkalis on the mineralogy in a mineralized Portland cement clinker 893

- N.Y. Mostafa, S.A.S. El-Hemaly, E.I. Al-Wakeel, S.A. El-Korashy, P.W. Brown:** Characterization and evaluation of the hydraulic activity of water-cooled slag and air-cooled slag 899

- N.Y. Mostafa, S.A.S. El-Hemaly, E.I. Al-Wakeel, S.A. El-Korashy, P.W. Brown:** Activity of silica fume and dealuminated kaolin at different temperatures 905

- C. Paglia, F. Wombacher, H. Böhm:** The influence of alkali-free and alkaline shotcrete accelerators within cement systems: I. Characterization of the setting behavior 913

- K. Wu, B. Chen, W. Yao:** Study of the influence of aggregate size distribution on mechanical properties of concrete by acoustic emission technique 919

- B. Johannesson, P. Utgenannt:** Microstructural changes caused by carbonation of cement mortar 925

- S. Galí, C. Ayora, P. Alfonso, E. Tauler, M. Labrador:** Kinetics of dolomite–portlandite reaction: Application to Portland cement concrete 933

- J. Brandštet, J. Polcer, J. Krátký, R. Holešínský, J. Havlica:** Possibilities of the use of isoperibolic calorimetry for assessing the hydration behavior of cementitious systems 941

- J. Li, S.-Q. Li, J.-S. Hu, B. Liu, Q. Wang:** Study on the aluminophosphate glass-rich cement 949

- K.N. Jallad, M. Santhanam, M.D. Cohen, D. Ben-Amotz:** Chemical mapping of thaumasite formed in sulfate-attacked cement mortar using near-infrared Raman imaging microscopy 953

COMMUNICATION

- B.-W. Chun:** Paste fluidity of two-component cement dispersant formulation: Another additivity rule 959
- K. Vallens, E. Bescher, J.D. Mackenzie, E. Rice:** A new technique for the measurement of the impact resistance of wall coatings 965

- NEWS ITEMS** 969

2001

Volume 31, Number 7

July

PAPERS

- L. Tong, O.E. Gjorv:** Chloride diffusivity based on migration testing 973
- R. B. Perkins, C.D. Palmer:** Solubility of chromate hydrocalumite ($3\text{CaO}\cdot\text{Al}_2\text{O}_3\cdot\text{CaCrO}_4\cdot n\text{H}_2\text{O}$) 5-75°C 983
- J. Schneider, M.A. Cincotto, H. Panepucci:** ^{29}Si and ^{27}Al high-resolution NMR characterization of calcium silicate hydrate phases in activated blast-furnace slag pastes 993
- A. Palos, N.A. D'Souza, C.T. Snively, R.F. Reidy III:** Modification of cement mortar with recycled ABS 1003
- T. Zhang, S. Shang, F. Yin, A. Aishah, A. Salmiah, T.L. Ooi:** Adsorptive behavior of surfactants on surface of Portland cement 1009
- S.A. Marfil, P.J. Maiza:** Deteriorated pavements due to the alkali-silica reaction: A petrographic study of three cases in Argentina 1017
- V. Vydra, F. Vodák, O. Kapičková, Š. Hošková:** Effect of temperature on porosity of concrete for nuclear-safety structures 1023
- J. Elsen:** Automated air void analysis on hardened concrete: Results of a European intercomparison testing program 1027
- W.-H. Huang:** Improving the properties of cement-fly ash grout using fiber and superplasticizer 1033
- L.T. Dougan, P.S. Addison:** Estimating the cut-off in the fractal scaling of fractured concrete 1043
- P.R. Blankenhorn, B.D. Blankenhorn, M.R. Silsbee, M. DiCola:** Effects of fiber surface treatments on mechanical properties of wood fiber-cement composites 1049
- J. Duchesne, M.-A. Bérubé:** Long-term effectiveness of supplementary cementing materials against alkali-silica reaction 1057
- Y. Xu, Y.L. Wong, C.S. Poon, M. Anson:** Impact of high temperature on PFA concrete 1065
- D.P. Bentz, M.R. Geiker, K.K. Hansen:** Shrinkage-reducing admixtures and early-age desiccation in cement pastes and mortars 1075

Z. Apagyi, L.J. Csetenyi: Phase equilibrium study in the $\text{CaO-K}_2\text{O-B}_2\text{O}_3\text{-H}_2\text{O}$ system at 25°C	1087
J. Tritthart, P.F.G. Banfill: Nitrite binding in cement	1093
COMMUNICATION	
T. Sebök, J. Šimoník, K. Kulísek: The compressive strength of samples containing fly ash with high content of calcium sulfate and calcium oxide	1101
DISCUSSIONS	
G.M. Idorn: A discussion of the paper "Mathematical model for kinetics of alkali-silica reaction in concrete" by Zdeněk P. Bažant and Alexander Steffens	1109
Z.P. Bažant, A. Steffens: Reply to the discussion by G.M. Idorn of the paper "Mathematical model for kinetics of alkali-silica reaction in concrete"	1111
W.G. Hime, S.L. Marusin: A discussion of the paper "The distributions of bound sulfates and chlorides in concrete subjected to mixed NaCl , MgSO_4 , Na_2SO_4 attack" by P.W. Brown and Steven Badger	1115
P.W. Brown, S. Badger: Reply to the discussion by William G. Hime and Stella L. Marusin of the paper "The distribution of bound sulfates and chlorides in concrete to mixed NaCl , MgSO_4 , Na_2SO_4 attack"	1117
NEWS ITEMS	1119

2001

Volume 31, Number 8

August

PAPERS

J. Qian, C. Shi, Z. Wang: Activation of blended cements containing fly ash	1121
R. Černý, J. Drchalová, P. Rovnaníková: The effects of thermal load and frost cycles on the water transport in two high-performance concretes	1129
G.A. Rao: Development of strength with age of mortars containing silica fume	1141
S. Asavapisit, W. Nanthamonty, C. Polprasert: Influence of condensed silica fume on the properties of cement-based solidified wastes	1147
Y. Shao, J. Qiu, S.P. Shah: Microstructure of extruded cement-bonded fiberboard	1153
J. Aguilera, M.T.B. Varela, T. Vázquez: Procedure of synthesis of thaumasite	1163
R.J. Flatt, Y.F. Houst: A simplified view on chemical effects perturbing the action of superplasticizers	1169
D.A. Silva, V.M. John, J.L.D. Ribeiro, H.R. Roman: Pore size distribution of hydrated cement pastes modified with polymers	1177
K. Fukuda, A. Takeda, H. Yoshida: Remelting reaction of $\alpha\text{-Ca}_2\text{SiO}_4$ solid solution confirmed in $\text{Ca}_2\text{SiO}_4\text{-Ca}_{12}\text{Al}_{14}\text{O}_{33}$ pseudobinary system	1185
H.-W. Song, J.-H.J. Kim, J.-H. Choi, K.-J. Byun: Microscopic analysis of 50% axially strained cementitious materials	1191
J. Li, Y. Yao: A study on creep and drying shrinkage of high performance concrete	1203

C.P. Atkins, M.A. Carter, J.D. Scantlebury: Sources of error in using silver/silver chloride electrodes to monitor chloride activity in concrete	1207
I.F. Olmo, E. Chacon, A. Irabien: Influence of lead, zinc, iron (III) and chromium (III) oxides on the setting time and strength development of Portland cement	1213
N.J. Saikia, P. Sengupta, P.K. Gogoi, P.C. Borthakur: Physico-chemical and cementitious properties of sludge from oil field effluent treatment plant	1221
M. Mbessa, J. Péra: Durability of high-strength concrete in ammonium sulfate solution	1227
COMMUNICATION	
İ.A. Altun: Effect of temperature on the mechanical properties of self-flowing low cement refractory concrete	1233
DISCUSSIONS	
E. Arioğlu, N. Arioğlu, C. Girgin: A discussion of the paper "Concrete strength by combined nondestructive methods simply and reliably predicted" by H.Y. Qasrawi	1239
H.Y. Qasrawi: Reply to the discussion by E. Arioğlu, N. Arioğlu, C. Girgin of the paper "Concrete strength by combined nondestructive methods simply and reliably predicted"	1241
NEWS ITEMS	1243

2001

Volume 31, Number 9

September

PAPERS

Z. Xie, Y. Xi: Hardening mechanisms of an alkaline-activated class F fly ash	1245
O.P. Shrivastava, R. Shrivastava: Sr ²⁺ uptake and leachability study on cured aluminum-substituted tobermorite–OPC admixtures	1251
H. Li, D.K. Agrawal, J. Cheng, M.R. Silsbee: Microwave sintering of sulphotoaluminate cement with utility wastes	1257
L.G. Andión, P. Garcés, F. Cases, C.G. Andreu, J.L. Vazquez: Metallic corrosion of steels embedded in calcium aluminate cement mortars	1263
S. Valls, E. Vázquez: Accelerated carbonation of sewage sludge–cement–sand mortars and its environmental impact	1271
T. Bakharev, J.G. Sanjayan, Y.-B. Cheng: Resistance of alkali-activated slag concrete to carbonation	1277
P. Yan, X. Qin, W. Yang, J. Peng: The semiquantitative determination and morphology of ettringite in pastes containing expansive agent cured in elevated temperature	1285
C.-S. Poon, S. Azhar, M. Anson, Y.-L. Wong: Comparison of the strength and durability performance of normal- and high-strength pozzolanic concretes at elevated temperatures	1291
C.-S. Poon, L. Lam, S.C. Kou, Y.-L. Wong, R. Wong: Rate of pozzolanic reaction of metakaolin in high-performance cement pastes	1301
C.-S. Poon, S. Azhar, M. Anson, Y.-L. Wong: Strength and durability recovery of fire-damaged concrete after post-fire-curing	1307

M.A. Mannan, C. Ganapathy: Long-term strengths of concrete with oil palm shell as coarse aggregate	1319
M.A. Mannan, C. Ganapathy: Mix design for oil palm shell concrete	1323
F. Ziegler, C.A. Johnson: The solubility of calcium zincate ($\text{CaZn}_2(\text{OH})_6 \cdot 2\text{H}_2\text{O}$)	1327
Q. Zhou, F.P. Glasser: Thermal stability and decomposition mechanisms of ettringite at $<120^\circ\text{C}$	1333
K. Quillin: Performance of belite-sulfoaluminate cements	1341
M.H. Ozkul: Efficiency of accelerated curing in concrete	1351
J. Monteny, N. De Belie, E. Vincke, W. Verstraete, L. Taerwe: Chemical and microbiological tests to simulate sulfuric acid corrosion of polymer-modified concrete	1359
J. Chang, X. Cheng, L. Lu, F. Liu, J. Zhu: The influences of two admixtures on white and colored Portland cement	1367
C. Shi: Formation and stability of $3\text{CaO} \cdot \text{CaCl}_2 \cdot 12\text{H}_2\text{O}$	1373
D.W.S. Ho, A.M.M. Sheinn, C.T. Tam: The sandwich concept of construction with SCC	1377
NEWS ITEMS	1383

2001

Volume 31, Number 10

October

PAPERS

Y. Wang, S. Diamond: A fractal study of the fracture surfaces of cement pastes and mortars using a stereoscopic SEM method	1385
N. Bouzoubaâ, M.H. Zhang, V.M. Malhotra: Mechanical properties and durability of concrete made with high-volume fly ash blended cements using a coarse fly ash	1393
J.I. Escalante, L.Y. Gómez, K.K. Johal, G. Mendoza, H. Mancha, J. Méndez: Reactivity of blast-furnace slag in Portland cement blends hydrated under different conditions	1403
M. Castellote, C. Andrade, C. Alonso: Measurement of the steady and non-steady-state chloride diffusion coefficients in a migration test by means of monitoring the conductivity in the anolyte chamber: Comparison with natural diffusion tests	1411
K.-R. Wu, B. Chen, W. Yao, D. Zhang: Effect of coarse aggregate type on mechanical properties of high-performance concrete	1421
M.-T. Liang, P.-J. Su: Detection of the corrosion damage of rebar in concrete using impact-echo method	1427
A.R. Brough, A. Katz, G.-K. Sun, L.J. Struble, R.J. Kirkpatrick, J.F. Young: Adiabatically cured, alkali-activated cement-based wasteforms containing high levels of fly ash: Formation of zeolites and Al-substituted C-S-H	1437
D. García del Amo, B. Calvo Pérez: Diagnosis of the alkali-silica reactivity potential by means of digital image analysis of aggregate thin sections	1449
B. Liu, Y. Xie, S. Zhou, J. Li: Some factors affecting early compressive strength of steam-curing concrete with ultrafine fly ash	1455

M. Al Awwadi Ghaib, J. Górski: Mechanical properties of concrete cast in fabric formworks	1459
C. Gallé: Effect of drying on cement-based materials pore structure as identified by mercury intrusion porosimetry: A comparative study between oven-, vacuum-, and freeze-drying	1467
P. Yu, R.J. Kirkpatrick: ^{35}Cl NMR relaxation study of cement hydrate suspensions	1479
P. Kalifa, G. Chéné, C. Gallé: High-temperature behaviour of HPC with polypropylene fibres: From spalling to microstructure	1487
E.J. Garboczi, D.P. Bentz: The effect of statistical fluctuation, finite size error, and digital resolution on the phase percolation and transport properties of the NIST cement hydration model	1501
COMMUNICATION	
S. Wen, D.D.L. Chung: Defect dynamics of cement paste under repeated compression studied by electrical resistivity measurement	1515
J. Cao, D.D.L. Chung: Minor damage of cement mortar during cyclic compression monitored by electrical resistivity measurement	1519
NEWS ITEMS	1523

2001

Volume 31, Number 11

November

PAPERS

V. Picandet, A. Khelidj, G. Bastian: Effect of axial compressive damage on gas permeability of ordinary and high-performance concrete	1525
M.M. Shoaib, S.A. Ahmed, M.M. Balaha: Effect of fire and cooling mode on the properties of slag mortars	1533
A. Çolak: Characteristics of acrylic latex-modified and partially epoxy-impregnated gypsum	1539
F.A. Rodrigues, P.J.M. Monteiro, G. Sposito: The alkali-silica reaction: The effect of monovalent and bivalent cations on the surface charge of opal	1549
M. Sonebi: Factorial design modelling of mix proportion parameters of underwater composite cement grouts	1553
F. Belaïd, G. Arliguie, R. François: Porous structure of the ITZ around galvanized and ordinary steel reinforcements	1561
A.H. Asbridge, G.A. Chadborn, C.L. Page: Effects of metakaolin and the interfacial transition zone on the diffusion of chloride ions through cement mortars	1567
A. Feylessoufi, F.C. Tenoudji, V. Morin, P. Richard: Early ages shrinkage mechanisms of ultra-high-performance cement-based materials	1573
S. Martinez-Ramirez, A. Palomo: Microstructure studies on Portland cement pastes obtained in highly alkaline environments	1581

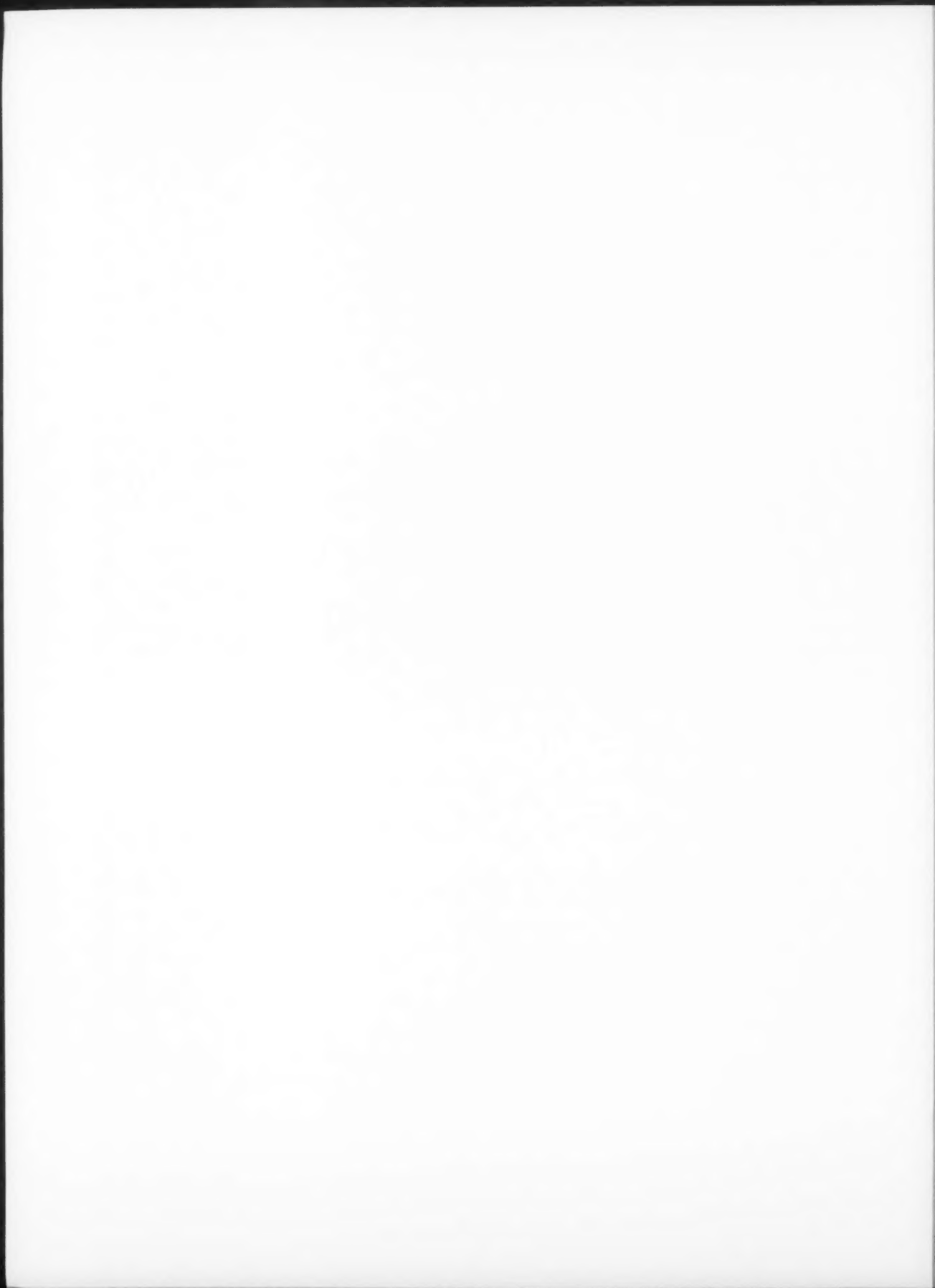
A. Bentur, S. Igarashi, K. Kovler: Prevention of autogenous shrinkage in high-strength concrete by internal curing using wet lightweight aggregates	1587
T. Sebök, M. Vondruška, K. Kulisek: Influence of MSFC-type dispersant composition on the performance of soluble anhydrite binders	1593
A. Yan, K.-R. Wu, D. Zhang, W. Yao: Effect of fracture path on the fracture energy of high-strength concrete	1601
X. Qian, Z. Li: The relationships between stress and strain for high-performance concrete with metakaolin	1607
A. Dubosc, G. Escadeillas, P.J. Blanc: Characterization of biological stains on external concrete walls and influence of concrete as underlying material	1613
M. Pfeuffer, W. Kusterle: Rheology and rebound behaviour of dry-mix shotcrete	1619
R. Demirboğa, İ. Örüng, R. Gül: Effects of expanded perlite aggregate and mineral admixtures on the compressive strength of low-density concretes	1627
COMMUNICATIONS	
J. Cao, D.D.L. Chung: Carbon fiber reinforced cement mortar improved by using acrylic dispersion as an admixture	1633
J. Cao, D.D.L. Chung: Defect dynamics and damage of concrete under repeated compression, studied by electrical resistance measurement	1639
TECHNICAL NOTES	
M.U.K. Afridi, Y. Ohama, K. Demura, M.Z. Iqbal: A note on the comparison of crack resistance of $\text{Ca}(\text{OH})_2$ crystals of unmodified and polymer-modified mortars in carbonated atmosphere	1643
J. Cao, D.D.L. Chung: Degradation of the bond between old and new mortar under cyclic shear loading, monitored by contact electrical resistance measurement	1647
DISCUSSIONS	
S. Wild: A discussion of the paper "Mercury porosimetry—an inappropriate method for the measurement of pore size distributions in cement-based materials" by S. Diamond	1653
S. Diamond: Reply to the discussion by S. Wild of the paper "Mercury porosimetry—an inappropriate method for the measurement of pore size distributions in cement-based materials"	1655
S. Chatterji: A discussion of the paper "Mercury porosimetry—an inappropriate method for the measurement of pore size distributions in cement-based materials" by S. Diamond	1657
S. Diamond: Reply to the discussion by S. Chatterji of the paper "Mercury porosimetry—an inappropriate method for the measurement of pore size distributions in cement-based materials"	1659
10-YEAR INDEX (1991-2000)	1661
NEWS ITEMS	1781

EDITORIAL

- J. Marchand:** Fall 2000 Materials Research Society Symposium on the Materials Science of High-Performance Concrete 1783

PAPERS

- E.M. Schulson, I.P. Swainson, T.M. Holden:** Internal stress within hardened cement paste induced through thermal mismatch: Calcium hydroxide versus calcium silicate hydrate 1785
- S. Grünwald, J.C. Walraven:** Parameter-study on the influence of steel fibers and coarse aggregate content on the fresh properties of self-compacting concrete 1793
- N. Su, K.-C. Hsu, H.-W. Chai:** A simple mix design method for self-compacting concrete 1799
- D.M. Roy, P. Arjunan, M.R. Silsbee:** Effect of silica fume, metakaolin, and low-calcium fly ash on chemical resistance of concrete 1809
- K.-C. Hsu, Y.-S. Tseng, F.-F. Ku, N. Su:** Oil cracking waste catalyst as an active pozzolanic material for superplasticized mortars 1815
- I.P. Swainson, E.M. Schulson:** A neutron diffraction study of ice and water within a hardened cement paste during freeze-thaw 1821
- M.R. Geiker, P. Laugesen:** On the effect of laboratory conditioning and freeze/thaw exposure on moisture profiles in HPC 1831
- K.A. Snyder, J. Marchand:** Effect of speciation on the apparent diffusion coefficient in nonreactive porous systems 1837
- G.S. Wojcik, J.L. Plawsky, D.R. Fitzjarrald:** The utility of bimolecular expression to describe the heat generation and temperatures in curing Class HP concrete 1847
- O.M. Jensen, P.F. Hansen:** Autogenous deformation and RH-change in perspective 1859
- P. Lura, K. van Breugel, I. Maruyama:** Effect of curing temperature and type of cement on early-age shrinkage of high-performance concrete 1867
- I.J. Merchant, D.E. Macphee, H.W. Chandler, R.J. Henderson:** Toughening cement-based materials through the control of interfacial bonding 1873
- F.P. Glasser, L. Zhang:** High-performance cement matrices based on calcium sulfoaluminate belite compositions 1881
- C. Porteneuve, H. Zanni, C. Vernet, K.O. Kjellsen, J.-P. Korb, D. Petit:** Nuclear magnetic resonance characterization of high- and ultrahigh-performance concrete: Application to the study of water leaching 1887
- L. Østergaard, D.A. Lange, S.A. Altoubat, H. Stang:** Tensile basic creep of early-age concrete under constant load 1895
- NEWS ITEMS** 1901
- CONTENTS INDEX** 1903
- AUTHOR INDEX** 1919
- KEYWORD INDEX** 1923





Author Index

- Adam, C.D., 13
Addison, P.S., 1043
Afridi, M.U.K., 1643
Aggelakopoulou, E., 633
Agrawal, D.K., 1257
Aguilera, J., 1163
Ahmed, S.A., 1533
Ahn, W., 343
Aishah, A., 1009
Al Awwadi Ghaib, M., 1459
Al-Wakeel, E.I., 467, 475, 899, 905
Alexander, M.G., 303
Alfonso, P., 933
Alonso, C., 233, 621, 839, 1411
Alonso, S., 25
Altoubat, S.A., 1895
Altun, I.A., 1233
Amahjour, F., 41
Ampadu, K.O., 431
Andión, L.G., 1263
Andrade, C., 233, 621, 839, 1411
Andreu, C.G., 1263
Anson, M., 1065, 1291, 1307
Apagyi, Z., 1087
Apih, T., 263
Aride, J., 449
Arioglu, E., 1239
Arioglu, N., 1239
Arjunan, P., 1809
Arliguie, G., 1561
Asavapisit, S., 1147
Asbridge, A.H., 1567
Atkins, C.P., 1207
Atkinson, A., 421, 795
Austin, S., 719
Ay, N., 1
Ayora, C., 933
Azhar, S., 1291, 1307

Badger, S., 1117
Bakharev, T., 331, 1277
Bakolas, A., 633
Balaha, M.M., 1533
Balázs, G., 577

Baltrus, J.P., 819
Banfill, P.F.G., 1093
Baoju, L., 1455
Barnett, S.J., 13
Bastian, G., 1525
Bažant, Z.P., 1111
Beal, D., 543
Beaudoin, J.J., 149
Belaïd, F., 1561
Ben-Amotz, D., 953
Benarchid, M.Y., 449
Bensted, J., 161, 511
Bentur, A., 1587
Bentz, D.P., 503, 1075, 1501
Bescher, E., 965
Bérubé, M.A., 1057
Blanc, P.J., 1613
Blankenhorn, B.D., 1049
Blankenhorn, P.R., 1049
Blinç, R., 263
Boch, P., 563, 571
Boddy, A., 759
Bonavetti, V.L., 853
Bonnet, J.P., 405
Bonora, V., 739
Borrachero, M.V., 41, 57, 227
Borthakur, P.C., 1221
Boukhari, A., 449
Bouzoubaâ, N., 413, 1393
Böhni, H., 913
Brandstettr, J., 941
Bremner, T.W., 861
Brough, A.R., 421, 795, 1437
Brown, P.W., 159, 467, 475, 899, 905, 1117
Brown, T., 707
Buenfeld, N.R., 437
Bullen, F., 543
Byun, K.J., 1191

Cabrera, J., 177, 519
Cahyadi, J.H., 277
Callebaut, K., 397
Calvo Pérez, B., 1449

Cao, J., 309, 669, 1519, 1633, 1639, 1647
Carter, M.A., 1207
Cases, F., 1263
Castanet, R., 449
Castanier, G., 271
Castellote, M., 233, 621, 839, 1411
Castro, P., 233, 529, 839
Catinaud, S., 149
Chacon, E., 1213
Chadbourne, G.A., 621, 1567
Chai, H.-W., 1799
Chandler, H.W., 1873
Chandler, J., 719
Chang, F.P., 1367
Chang, M., 213
Chang, P.K., 87
Chatterji, S., 1657
Chen, B., 919, 1421
Chen, H., 595
Chen, L., 83
Chen, X., 83
Cheng, F.P., 1367
Cheng, J., 1257
Cheng, M., 213
Cheng, Y.B., 331, 1277
Chéné, G., 1487
Choi, J.H., 1191
Choplin, L., 183
Chotard, T., 405
Chun, B.W., 959
Chung, D.D.L., 129, 141, 291, 297, 309, 507, 665, 669, 673, 1515, 1519, 1633, 1639, 1647
Cincotto, M.A., 993
Cohen Tenoudji, F., 63
Cohen, M.D., 845, 953
Conway, J.T., 503
Csetenyi, L.J., 1087
Csizmadia, J., 577
Cui, L., 277
Cvelbar, R., 263
Černý, R., 1129
Çolak, A., 1539

- D'Souza, N.A., 1003
 Damidot, D., 555
 Day, R.L., 813
 De Belie, N., 1359
 De Rincon, O.T., 529
 Demura, K., 1643
 Demirbaş, A., 3
 Demirboga, R., 1627
 Dhir, R.K., 321
 Diamond, S., 1, 1385, 1655
 DiCola, M., 1049
 Diouri, A., 449
 Doerr, A., 159
 Dongxu, L., 19
 Dougan, L.T., 1043
 Drabik, M., 743
 Drchalová, J., 1129
 Dubosc, A., 1613
 Duchesne, J., 1057

 El-Hemaly, S.A.S., 467, 475, 899, 905
 El-Jazairi, B., 455
 El-Korashy, S.A., 467, 475, 899, 905
 Elices, M., 73
 Elsen, J., 397, 1027
 Emri, I., 263
 Erdogan, Y., 491
 Erdogdu, S., 861
 Escadeillas, G., 1613
 Escalante, J.I., 1403
 Evju, C., 257
 Echeverría, M., 233
 Escalante-García, J.I., 695

 Famy, C., 683, 795
 Fantozzi, G., 555
 Fargeot, D., 405
 Fernández Olmo, I., 1213
 Ferraris, C.F., 245
 Feylessoufi, A., 63, 1573
 Fisher, A.K., 543
 Fitzjarrald, D.R., 1847
 Flatt, R.J., 1169
 François, R., 1561
 Franzoni, E., 485
 Frías, M., 519
 Fu, Z., 287
 Fukuda, K., 1185

 Gabrovšek, R., 135
 Gagné, R., 775
 Galikova, L., 743
 Galí, S., 933

 Gallé, C., 1467, 1487
 Ganapathy, C., 1319, 1323
 Garboczi, E.J., 1501
 Garcés, P., 1263
 Garci Juenger, M.C., 883
 García del Amo, D., 1449
 Gault, C., 405
 Geiker, M.R., 1075, 1831
 Germaine, J.T., 767
 Giafferi, J.L., 271
 Gimet-Breart, N., 405
 Girgin, C., 1239
 Gjorv, O.E., 973
 Glasser, F.P., 1333, 1881
 Gogoi, P.K., 1221
 Gómez, L.Y., 1403
 Górski, J., 1459
 Gruber, K.A., 759
 Grünewald, S., 1793
 Guinea, G.V., 73
 Gusev, B.V., 263
 Gül, R., 1627

 Hall, D.A., 455
 Hamada, H., 829, 835
 Han, S.H., 217
 Hanehara, S., 31, 375
 Hansen, K.K., 1075
 Hansen, P.F., 647, 1859
 Hansen, S., 257, 641
 Hansson, C.M., 713
 Hartshorn, S.A., 513
 Havlica, J., 941
 Henderson, R.J., 1873
 Heukamp, F.H., 767
 Hill, R., 245
 Hime, W.G., 1, 1115
 Ho, D.W.S., 1377
 Holden, T.M., 1785
 Holešínský, R., 941
 Hong, H., 287
 Hong, S.Y., 283
 Hooton, R.D., 759
 Hope, B.B., 713
 Hošková, S., 1023
 Houst, Y.F., 1169
 Hsu, K.C., 1799, 1815
 Hu, A.E., 949
 Huang, W.H., 1033
 Huang, Z.Q., 97
 Hwang, K.R., 31

 Idom, G.M., 1109
 Igarashi, S., 1587
 Iqbal, M.Z., 1643

 Irabien, A., 1213
 Irassar, E.F., 853

 Jackson, A.R.W., 13
 Jallad, K.N., 953
 Jennings, H.M., 205, 351, 883
 Jensen, O.M., 647, 1859
 Jian, L., 1455
 Jinlin, S., 19
 Johal, K.K., 1403
 Johannesson, B., 925
 John, V.M., 1177
 Johnson, C.A., 1327
 Jones, P., 719
 Joska, L., 589
 Jøns, E., 893
 Juel, I., 893

 Kakali, G., 425
 Kalifa, P., 1487
 Kalyanasundaram, R.M., 789
 Kapičková, O., 1023
 Karataş, F.O., 3
 Katz, A., 1437
 Kaučič, V., 135
 Kearsley, E.P., 105, 805
 Khayat, K.H., 731, 749
 Khelidj, A., 1525
 Kii, K.H., 321
 Killermann, O., 357
 Kim, J.C., 283
 Kim, J.H.J., 1191
 Kim, J.K., 217
 Kirkpatrick, R.J., 1437, 1479
 Kjellsen, K.O., 1887
 Kobayakawa, M., 31
 Kolay, P.K., 539
 Kolovos, K., 425
 Kondratova, I.L., 861
 Korb, J.P., 1887
 Kou, S.C., 873, 1301
 Kovler, K., 1587
 Krauthammer, T., 165
 Krátký, J., 941
 Ku, F.F., 1815
 Kula, I., 491
 Kulisek, K., 1101, 1593
 Kusterle, W., 1619

 Labrador, M., 933
 Lachemi, M., 413
 LaCount, R.B., 819
 Lahajnar, G., 263
 Lam, L., 873, 1301
 Lange, D.A., 1895

- Laugesen, P., 1831
 Lavat, A.E., 869
 Lee, K.M., 217
 Lequeux, N., 563, 571
 Li, A.E., 949
 Li, G., 83
 Li, H., 1203, 1257
 Li, Z., 1607
 Liang, M.T., 1427
 Lin, C., 19
 Lin, K.L., 97
 Lin, Z.S., 873
 Liu, F.P., 1367
 Liu, M., 213
 Liu-Biao, A.E., 949
 Loutsis, P., 425
 Lu, F.P., 1367
 Lu, M., 213
 Luo, X., 595
 Lura, P., 1867

 Mackenzie, J.D., 965
 Macphée, D.E., 1873
 Magee, B.J., 303
 Maiza, P.J., 1017
 Majumdar, A., 627
 Mala, R., 589
 Malhotra, V.M., 1393
 Mancha, H., 1403
 Mannan, M.A., 1319, 1323
 Marchand, J., 149, 1783, 1837
 Marfil, S.A., 1017
 Martínez-Ramírez, S., 1581
 Marusin, S.L., 1, 1115
 Maruyama, I., 1867
 Maximilien, S., 555
 Mbessa, M., 1227
 McCarthy, M.J., 321
 Mellado, A., 227
 Mendoza, G., 1403
 Merchant, I.J., 1873
 Méndez, J., 1403
 Milia, F., 263
 Min, D., 703
 Min, X., 287
 Mohammed, T.U., 829, 835
 Mojumdar, S.C., 743
 Monari, P., 739
 Monteiro, P.J.M., 603, 825, 1549
 Monteny, J., 1359
 Monzó, J., 41, 57, 227
 Morin, V., 63, 1573
 Moropoulou, A., 633
 Morris, H., 655
 Mostafa, N.Y., 467, 475, 899, 905
 Munn, J., 161, 511

 Muralidharan, S., 789
 Mutin, J.C., 183

 Nachbaur, L., 183
 Naiqian, F., 703
 Nanthamonty, W., 1147
 Narayanan, N., 1
 Nonat, A., 183
 Novak, P., 589

 Obla, K.H., 245
 Odigure, J.O., 51
 Odler, I., 1
 Ogawa, S., 375
 Ohama, Y., 1643
 Olek, J., 845
 Olgun, A., 491
 Olson, R.A., 351
 Ooi, T.L., 1009
 Ordoñez, L.M., 227
 Osborne, G., 627
 Ostertag, C.P., 825
 Otsuki, N., 829
 Ozkul, M.H., 1351
 Örling, I., 1627
 Østergaard, L., 1895
 Öztürk, T., 3

 Page, C.L., 621, 1567
 Paglia, C., 913
 Palmer, C.D., 983
 Palomo, A., 25, 1581
 Palos, A., 1003
 Panepucci, H., 993
 Payá, J., 41, 57, 227
 Pazini, E.J., 529
 Peiwei, G., 703
 Peng, J., 1285
 Peng, Y.N., 87, 609
 Pereira, G.B., 327
 Peris-Mora, E., 41
 Perkins, R.B., 983
 Persson, B., 193, 199, 389
 Petit, D., 1887
 Péra, J., 1227
 Pfeuffer, M., 1619
 Picandet, V., 1525
 Planas, J., 73
 Plawsky, J.L., 1847
 Polcer, J., 941
 Polprasert, C., 1147
 Pomiès, M.P., 563, 571
 Poon, C.S., 1065, 1291, 1301, 1307, 873
 Porteneuve, C., 1887
 Prince, W., 271, 775

 Qasrawi, H.Y., 1241
 Qian, D., 1121
 Qian, H., 595
 Qian, X., 1607
 Qin, X., 335, 1285
 Qiu, J., 1153
 Quillin, K., 627, 1341

 Ragai, S.M., 781
 Rahhal, V.F., 853
 Rai, S., 239
 Ramamurthy, K., 1
 Rao, G.A., 7, 171, 443, 495, 1141
 Reddy, D.V., 343
 Reidy, R.F., 1003
 Rhim, H.C., 363
 Ribeiro, J.L.D., 1177
 Rice, E., 965
 Richard, P., 63, 1573
 Robins, P., 719
 Rocco, C., 73
 Rodrigues, F.A., 1549
 Rogez, J., 449
 Rojas, M.F., 177
 Roman, H.R., 1177
 Rovnaniková, P., 1129
 Roy, D.M., 1809

 Saak, A.W., 205
 Saccani, A., 739
 Sagoe-Crentsil, K.K., 707
 Saikia, N.J., 1221
 Salem, T.M., 781
 Salmiah, A., 1009
 Sandrolini, F., 485
 Sanjayan, J.G., 313, 331, 1277
 Santhanam, M., 845, 953
 Saraswathy, V., 789
 Sarkar, S.L., 119, 125
 Scantlebury, J.D., 1207
 Schneider, J., 993
 Schulson, E.M., 1785, 1821
 Schulze, J., 357
 Scrivener, K.L., 683, 795
 Sebök, T., 1101, 1593
 Sengupta, P., 1221
 Sepe, A., 263
 Sevinc, V., 491
 Sha, W., 327
 Shah, S.P., 205, 1153
 Shang, S., 1009
 Shao, Y., 1153
 Sharp, J.H., 513, 695
 Shayan, A., 655
 Sheinn, A.M.M., 1377
 Shi, C., 813, 1373

- Shi, D., 1121
 Shiqiong, Z., 1455
 Shoaib, M.M., 1533
 Shomglin, K., 825
 Shrivastava, O.P., 1251
 Shrivastava, R., 1251
 Shuguang, H., 385
 Silsbee, M.R., 1, 1049, 1257, 1809
 Silva, D.A., 1177
 Singh, D.N., 539
 Singh, N.B., 239
 Singh, B., 627
 Sioulas, B., 313
 Smith, A., 405
 Snively, C.T., 1003
 Snyder, K.A., 1837
 Solberg, C., 641
 Sonebi, M., 1553
 Song, H.W., 1191
 Sorrentino, F., 555
 Sposito, G., 1549
 Srinivasan, S., 789
 Stang, H., 1895
 Steffens, A., 1111
 Stevens, R., 455
 Struble, L.J., 1437
 Su, N., 609, 1799, 1815
 Su, P.J., 1427
 Sun, G.K., 1437
 Sun, W., 595
 Swainson, I.P., 1785, 1821
 Swamy, R.N., 513
 Šimoník, J., 1101

 Taerwe, L., 1359
 Takeda, A., 1185
 Tam, C.T., 1377
 Tamás, F.D., 577
 Tauler, E., 933
 Taylor, A.H., 707
 Taylor, H.F.W., 683
 Teng, M., 213
 Tenoudji, F.C., 1573

 Thangavel, K., 789
 Tinta, V., 135
 Titova, L.A., 263
 Tittle, P.A.J., 321
 Tomosawa, F., 31
 Tong, L., 973
 Torii, K., 431
 Trezza, M.A., 869
 Trépanier, S.M., 713
 Tritthart, J., 1093
 Tseng, Y.S., 1815
 Tsivilis, S., 425
 Turanlı, L., 825

 Ulm, F.J., 767
 Utgenannt, P., 925
 Ünal, M., 1

 Vallens, K., 965
 Valls, S., 1271
 Van Balen, K., 397
 van Breugel, K., 1867
 Varela, M.T.B., 1163
 Vaupel, H., 1
 Vazquez, J.L., 1263
 Vázquez, E., 1271
 Vázquez, T., 1163
 Velez, K., 555
 Vernet, C., 1887
 Verstraete, W., 1359
 Viaene, W., 397
 Vincke, E., 1359
 Vodák, F., 1023
 Vuk, T., 135
 Vydra, V., 1023
 Vondruška, M., 1593

 Wainwright, P.J., 105, 805
 Walraven, J.C., 1793
 Wang, A.E., 949
 Wang, D., 1121
 Wang, K.S., 97

 Wang, Y., 1385
 Wen, S., 129, 141, 291, 297, 507, 665, 673, 1515
 Wheeler, J., 119, 125
 Wild, S., 1653
 Wojcik, G.S., 1847
 Wombacher, F., 913
 Wong, R., 1301
 Wong, Y.L., 1065, 1291, 1301, 1307
 Wu, K., 113, 919
 Wu, K.R., 1421, 1601

 Xi, Y., 1245
 Xie, Z., 1245
 Xiong, G., 83
 Xu, Y., 1065
 Xuequan, W., 19

 Yahia, A., 731, 749
 Yamada, K., 375
 Yan, A., 113, 1601
 Yan, P., 335, 1285
 Yang, R., 437
 Yang, W., 1285
 Yao, H., 1203
 Yao, W., 113, 919, 1421, 1601
 Yin, F., 1009
 Yoshida, H., 1185
 Youjun, X., 1455
 Young, J.F., 1437
 Yu, P., 1479
 Yue, L., 385

 Zanni, H., 1887
 Zhang, D., 113, 1421, 1601
 Zhang, J., 603
 Zhang, L., 1881
 Zhang, M.H., 1393
 Zhang, T., 1009
 Zhou, Q., 1333
 Zhu, F.P., 1367
 Ziegler, F., 1327



Keyword Index

- Abrams' Law, 495
Absorption, 1831
AC Impedance, 431
Accelerated Calcium Leaching, 767
Accelerated Carbonation, 1271
Accelerated Testing, 655
Accelerated Tests, 739, 825
Acceleration, 343, 873, 1351, 1427
Accelerators, 913
Acid Attack, 331
Acoustic Emission, 919
Acrylic Latex, 1539
Activation, 1121
Adhesion Strength, 357
Admixture, 303, 647, 673, 713, 789, 941, 959, 1169, 1251, 1367, 1593, 1619
Admixtures, 357
Adsorption, 375, 563, 571, 819, 1009, 1169, 1593
AFm, 1479
Age, 443
Aggregate, 7, 437, 707, 919, 1323, 1421, 1549
Aging, 363, 1895
Air Void Analysis, 1027
Air-Cooled Slag, 475, 899
Air-Entraining Admixture, 819
Al(Fe)–O–C(P) cross-links, 743
Algae, 1613
Alkali Leaching, 795
Alkali–Aggregate Reaction, 271, 655, 933, 1017, 1057, 1549
Alkali–Silica Reaction, 739, 825
Alkali-Activated Cement, 283, 331, 1245, 1277, 1437, 1449
Alkaline Activation, 25
Alkaline Polymer, 25
Alkalis, 199, 283, 683
Alteration, 271
Amorphous Material, 227, 1549
Analysis, 233
Anchorage, 749
Anhydrite, 873
Anions, 425
Antiwashout Admixture, 749, 1553
Backscattered Electron Imaging, 437, 695
BaO, 893
Bending Properties, 1049
Bending Strength, 455
BET Equation, 925
Biogenic Sulfuric Acid, 1359
Blast Furnace Slag, 707
Blast Furnace Slag Aggregate, 1533
Blended Cement, 31, 57, 313, 503, 519, 743, 853, 1121, 1221, 1393, 1403, 1847
Bond Strength, 183, 669, 1003, 1647
Borate, 1087
Bottom Ash, 491
Bromide, 1207
By-Products, 467
2.75CaO·1.25BaO·3Al₂O₃·CaSO₄, 213
3CaO·3Al₂O₃·CaSO₄, 263
3CaO·CaCl₂·12H₂O, 1373
C–S–H, 125, 563, 571
Ca(CO₃)₂, 633
Ca(OH)₂, 41, 125, 633, 1643
Ca₂SiO₄, 893, 1185
Ca₃Al₂O₆, 449
Ca₃SiO₅, 183
Cadmium, 563, 571
Calcium, 375
Calcium Aluminate Cement, 405, 627, 1263
Calcium Aluminoferrite, 577
Calcium Hydroxide, 149, 1785
Calcium Sulfoaluminate, 1881
Calcium-Silicate-Hydrate (C–S–H), 351, 467, 475, 883, 993, 1043, 1251, 1327, 1437
Calorimetry, 257, 449, 941, 1593, 1847
CaO–SiO₂–Al₂O₃–Fe₂O₃, 425
CaO, 633, 1087
Carbonation, 869, 925, 1277, 1341, 1643
Cellulose Fibres, 543
Cement, 171, 199, 357, 389, 819, 941, 1009, 1141, 1163, 1873
Cement Fiberboard, 1153
Cement Grout, 749, 1033
Cement Kiln Dust; CKD, 781
Cement Manufacture, 51
Cement Mortar, 925
Cement Paste, 31, 129, 141, 183, 205, 245, 277, 291, 297, 385, 507, 883, 959, 1075, 1093, 1177, 1385, 1467, 1515, 1561
Cenospheres, 539
Characterisation, 57, 327, 351, 1185, 1613
Chemical Activators, 813
Chemical Composition, 539
Chemical Damage, 767
Chemical Dissolution, 1403
Chemical Resistivity, 1533
Chloride, 149, 529, 577, 589, 713, 759, 775, 861, 1093, 1207, 1411, 1567
Chloride Binding, 1479
Chloride Contaminated Concrete, 789
Chloride Diffusion, 621
Chloride Migration, 621
Chlorides, 973
Chromate, 983
Chromium, 449
Clinker, 287, 555
Colemanite Ore Waste, 491
Coloration, 313
Colored Portland Cement, 1367
Compaction, 1377
Compatibility, 1377
Composite, 1049
Compressive Strength, 51, 105, 193, 213, 217, 321, 413, 491, 495, 503, 609, 627, 695, 707, 805, 873, 1049, 1065, 1101, 1141, 1203, 1213, 1227, 1291, 1301, 1307, 1319, 1323, 1341, 1393, 1421, 1593, 1601, 1627, 1799, 1815
Concentration Profile, 529
Concrete, 63, 73, 199, 313, 321, 389, 413, 437, 529, 589, 609, 759, 775, 819, 919, 941, 1027, 1093, 1207,

- 1233, 1393, 1411, 1421, 1427, 1459, 1467, 1573, 1607, 1613, 1639, 1831, 1895
- Concrete Plants, 485
- Condensed Silica Fume, 1147
- Conditioning, 1831
- Conduction Calorimetry, 467
- Conductivity, 41, 1411
- Confined Cementitious Materials, 1191
- Confined Condition, 385
- Corrosion, 3, 83, 343, 529, 589, 603, 713, 829, 1207, 1263, 1359, 1427
- Corrosion Inhibitors, 713, 1093
- Corrosion Rate, 861
- Crack Detection, 719, 1643
- Creep, 193, 389, 1203, 1895
- Crystal Size, 1821
- Crystal Structure, 893, 1643, 1821
- CSH Gel, 25
- Curing, 313, 647, 1319, 1459
- Curing Temperature, 695
- Cycles, 1129
- Dealuminated Kaolin, 467, 905
- Decomposition (of Ettringite), 1333
- Degradation, 363, 543, 669, 1227, 1487, 1647, 1887
- Degree of Pozzolanic Reaction, 1301
- Delayed Ettringite Formation, 335, 683
- Dielectric, 673
- Differential Thermal Analysis, 239
- Diffusion, 759, 973, 1065, 1411, 1567, 1837,
- Dispersing Force, 375
- Dispersion, 303, 309, 959, 1169
- Distribution, 925
- Dolomite-Portlandite, 933
- Dry Mixture, 609
- Drying, 1075, 1467
- Drying Shrinkage, 707
- Durability, 331, 343, 421, 543, 703, 707, 713, 739, 933, 965, 973, 1057, 1277, 1307, 1359, 1393, 1525, 1809, 1881
- Early Compressive Strength, 1455
- Ecocement, 431
- EDX, 795
- Efficiency, 1351
- Elastic Moduli, 7, 193, 455, 555, 1607
- Electrical Properties, 129, 141, 291, 297, 309, 363, 507, 665, 669, 673, 781, 1501, 1515, 1519, 1633, 1639, 1647
- Electrical Resistance, 1639
- Electrical Resistivity, 1519
- Electrochemical Method, 1427
- Electrochemical Properties, 775, 1837
- Environmental Impact, 1271
- Epoxy, 1539
- Epoxy-coated Reinforcement, 861
- ESEM, 767
- Ettringite, 13, 257, 421, 795, 845, 869, 913, 953, 1115, 1285, 1333, 1341, 1881
- EXAFS, 563, 571
- Expansion, 149, 257, 385, 491, 655, 845, 1533
- Expansive Agent, 335
- Experiment Design, 749
- Extrusion, 1153
- Fast-Setting/Early-Strength Agent, 19
- Fatigue, 343, 669, 1519, 1639, 1647
- fCaO, 425
- Fiber Reinforcement, 129, 141, 291, 297, 309, 507, 543, 665, 673, 719, 1049, 1153, 1633, 1793
- Fiber Surface Treatments, 1049
- Filler, 853
- Filling Height, 1799
- Fineness, 135
- Fineness Modulus, 7
- Fire, 1533
- Flow Time, 1553
- Fluorite, 213
- Fly Ash, 31, 41, 105, 321, 413, 491, 655, 805, 819, 873, 1057, 1065, 1101, 1121, 1245, 1393, 1437, 1627
- Foamed Concrete, 105, 805
- Formation, 1373
- Formulation, 959
- Fractal, 1385
- Fractal Dimension, 1601
- Fracture, 73
- Fracture Energy, 1601
- Fracture Surfaces, 1385
- Fracture Toughness, 113, 719, 1873
- Freezing/Thawing, 1821, 1831
- Fresh Concrete, 245, 1847
- Frictional Behavior, 767
- FTIR, 467
- Gehlenite, 475, 899
- General Effective Media Theory, 277
- Glass-Rich Cement, 949
- Grain Size, 1449
- Granite, 271
- Granulated Blast-Furnace Slag, 313, 327, 431, 781, 993, 1057, 1203, 1403, 1867
- Grinding, 813
- Ground Granulated Blast Furnace Slag, 331, 627, 1277
- Gypsum, 1539
- Heat of Hydration, 119
- Heat Treatment, 795
- Heavy Metal Leachability, 97
- Heavy Metals, 1327
- High Flowability, 87
- High Performance, 1301, 1881
- High Performance Concrete, 87, 263
- High Temperature, 177, 1023, 1065, 1291, 1307
- High-Performance Concrete, 113, 389, 595, 647, 703, 1129, 1203, 1487, 1525, 1847, 1859, 1887
- High-Range Water-Reducer, 749
- High-Reactivity Metakaolin, 759
- High-Strength Concrete, 1587
- HRWRA, 119
- Humidity, 199, 743, 1075, 1613, 1859
- Hybrid Fiber, 595
- Hydrated Phases, 519
- Hydration, 125, 135, 257, 263, 283, 327, 405, 503, 627, 641, 869, 941, 1191, 1257, 1501, 1847
- Hydration Activity, 949
- Hydration Mechanism, 1367
- Hydration Products, 327, 351, 695, 853, 1307, 1501
- Hydration Temperature, 1403
- Hydraulic Activity, 97, 899
- Hydraulic Lime, 397
- Hydrocalumite, 983
- Hydrogarnet, 899
- Hydrothermal, 475, 905
- Hygic Properties, 1129
- Image Analysis, 363, 437, 719, 953, 1027, 1449
- Impact Resistance, 965
- Industrial By-Products, 1257
- Interface, 1377
- Interfacial Transition Zone, 385, 1561, 1567
- Ionic Strength, 375
- Isothermal Conduction Calorimetry, 25
- Jennite, 1479
- Junction, 129

- Kinetics, 641, 933
 KOH, 1087
 Kramers–Kronig Transforms, 603
- Leachability, 1147
 Leaching, 233, 683
 Leaching Process, 1271
 Lightweight Aggregate, 1587
 Lightweight Concrete, 1319, 1323, 1627
 Lime, 177, 519
 Limestone, 135
 Long-Term Performance, 389, 627
- Macrocell Corrosion, 789
 Maturity, 217
 Mechanical and Durability, 1539
 Mechanical Properties, 100, 113, 135, 321, 357, 405, 555, 919, 965, 1233, 1421, 1459, 1873
 Mechanical Strengths, 1581
 Melting, 97
 Mercury Porosimetry, 431, 1177, 1561
 Meta-Etringite, 1333
 Metakaolin, 25, 177, 271, 519, 1301, 1567, 1607, 1809
 Metal Oxides, 1213
 Metallic Aggregate, 113
 Metallic Particles, 51
 Metamorphic Quartz, 1449
 MgO, 455
 Microcracking, 171, 1515, 1525
 Micromechanics, 555
 Microscopic Behavior, 1191
 Microsteel Fiber, 825
 Microstructure, 31, 83, 125, 277, 287, 351, 385, 397, 431, 455, 633, 683, 695, 739, 883, 913, 1023, 1043, 1065, 1153, 1191, 1291, 1307, 1467, 1515, 1561, 1613, 1873, 1887
 Microwave, 177
 Microwave Sintering, 1257
 Migration, 775, 1411
 Mineralizers, 425
 Mineralogical Composition, 539
 Minislump, 1553
 Mix Design, 1799
 Mix Proportion, 83, 1323, 1793
 Modeling, 51, 73, 217, 503, 719, 845, 1009, 1087, 1501, 1837, 1895
 Moist Storage, 321
 Moisture Profiles, 1831
 Monosulfate, 983
 Morphology, 1285
- Mortar, 7, 171, 309, 443, 485, 495, 1003, 1141, 1519, 1567, 1633, 1647, 1815
 MSWI Fly Ash, 97
 Multiple-Charged Cation, 375
- Na_2CO_3 , 1581
 Na_2SO_4 , 1121
 NaOH, 1581
 Neutron Diffraction, 1785, 1821
 Nitrite, 1093
 NMR, 25, 263
 NMR Relaxation Rate, 1479
 NMR Spectroscopy, 993
 Nondestructive Testing, 363
 Nuclear Magnetic Resonance, 1887
 Nuclear Waste Storage, 767
- Opal, 825
 OPSoil Palm Shell, 1319
 Optimization, 51
 Organic Materials, 1049
 Oxygen Diffusion, 621
 Oxygen Permeability, 829
- Partial Replacement, 1587
 Particle Size Distribution, 193, 303, 503
 Particle Size, 539
 Percolation, 1573
 Performance, 707
 Permeability, 277, 595, 759, 805, 1291, 1459, 1487, 1525
 Petrography, 397, 1017, 1185
 PFA, 1553
 pH, 1549
 Phase Composition, 949
 Phosphorus, 19, 449
 Physical, 1539
 Physical Properties, 507, 965, 1221
 Plain and Deformed Bars, 829
 Plazolite, 475
 Polarization, 141, 291
 Polycarboxylate, 375
 Polymer, 83, 239, 357, 743, 1177
 Polymer-Modified Mortars, 1643
 Polypropylene Fiber, 1033, 1487
 Polyvinyl Alcohol, 239
 Pore Pressure, 767
 Pore Size, 925
 Pore Size Distribution, 873, 883, 1023, 1177, 1227, 1301, 1561, 1821, 1887
 Pore Solution, 233, 1093, 1837
 Pore Structure, 19
 Porosity, 805, 1581
- Portland, 1263
 Portland Cement, 135, 239, 1147, 1213, 1251, 1351, 1867
 Portland Cement Hydration, 1581
 Portlandite, 1479
 Pozzolan, 41, 57, 199, 227, 813, 1291, 1351, 1809, 1815
 Pozzolanic Activity, 467, 905
 Pozzolans, 845
 Pre-rusted Steel, 589
 Pseudoplastic Grout, 731
- Quicklime Reactivity, 633
- Radioactive Waste, 1437, 1467
 Radioactive Waste Form, 1251
 Raman, 421
 Raman Imaging, 953
 Reaction, 227, 1185
 Reaction Kinetics, 177
 Reactive Powder Concrete, 1573
 Ready-Mixed Concrete, 485
 Rebound, 1619
 Recycle, 485
 Recycled Concrete, 707
 Recycled Polymers, 1003
 Refractory Cement, 1233
 Reinforced Concrete, 603, 861
 Reinforcement, 589, 669
 Reinforcement Corrosion, 789
 Reinforcing Steel, 1263
 Relationships of Stress and Strain, 1607
 Remelting, 1185
 Repair, 749
 Restrained Autogenous Shrinkage, 1587
 Restraining Stress, 1587
 Retardation, 455
 Retarder, 119
 Rheology, 183, 205, 245, 1169, 1377, 1593, 1619
 Rheology-Modifying Admixture, 731
 Rice Husk Ash, 239
- Salt Hydration, 1115
 Scanning Electron Microscopy, 83, 287, 437, 543, 953, 1043, 1115, 1227, 1385
 Self-Compacting, 413
 Self-Compacting Concrete, 1793
 Self-Desiccation, 647, 1859
 SEM/EDXA, 125
 Semiquantitative Determination, 1285
 Sensing, 665
 Setting, 63, 913

- Setting Time, 119, 1213
Sewage Sludge, 1271
Shear Thinning, 731
Shotcrete, 1619
Shrinkage, 63, 171, 193, 389, 595, 647, 1075, 1203, 1573, 1859, 1867
Shrinkage-Compensating Massive Concrete, 335
²⁹Si RNM-MA, 1271
Silica Fume, 7, 129, 141, 171, 199, 291, 297, 303, 309, 443, 467, 665, 673, 781, 905, 1057, 1141, 1203, 1627, 1633, 1809
Simulation, 933
Slag, 19
Slag Reaction, 1403
Slag-Blended Cement, 97
Slip, 205
Slump Flow, 413, 1799
Solid Solutions, 13
Solidification, 1101
Soluble Chloride, 233
Sorption, 925
SP, 1553
Spectroscopy, 421, 1251
Spectroscopy FT-IR, 869
Spent Fluid Cracking Catalyst, 57
Splitting Tensile Strength, 495
SrO, 893
Stability, 1373, 1809
Stability (of Ettringite), 1333
Stabilization/Solidification, 1147
Steady-State Tests, 621
Steam, 609
Steam Curing, 1455
Steel Corrosion, 1881
Stereoscopic, 1385
Storage Conditions, 795
Strain Effect, 297, 665, 1515, 1519, 1525, 1639
Strength, 443, 813, 1147, 1377
Strength Development, 1141
Sulfate, 149, 641, 1115, 1341
Sulfate Attack, 3, 845, 953, 1115, 1163, 1227, 1359
Sulfate Ion Concentration, 375
Sulfoaluminate, 853, 869, 1341
Sulphoaluminate Belite Cement, 1257
Superfine Fly Ash, 119
Superfine Phosphoric Slag, 703
Superplasticizer, 63, 87, 375, 703, 1033
Supplementary Cementitious Materials, 731
Surface Area, 7, 113, 883, 1449
Surface Tension, 1075
Temperature, 217, 1129, 1207, 1487, 1867
Temperature Match Conditioning, 1285
Tensile Properties, 73, 1633, 1895
Thaumasite, 421
Thaumasite Synthesis, 1163
Thermal Analysis, 31, 327, 449, 577, 743, 1023, 1129
Thermal Expansion, 1785
Thermal Properties, 539
Thermal Treatment, 683, 813, 993, 1221, 1233, 1351
Thermodynamic Calculations, 983, 1087, 1327
Thermoelectric, 507
Time-to-Cracking, 861
Titration, 227
Tobermorite, 905
Transport Properties, 973, 1501, 1837
Triaxial Testing, 767
Tropical Marine Environment, 529
Tube-Squash Test, 1191
Ultrafine Fly Ash, 1455
Ultrasonic Measurement, 405
Ultrasonic Spectroscopy, 1573
Ultrasonics, 63
Underwater Casting, 749
Underwater Grout, 1553
Vibration, 1427
Volatility, 425
Wash Water, 485
Washout Resistance, 1553
Waste Catalyst, 1815
Waste Management, 563, 571, 1213, 1221
Water/Binder Ratio, 87, 443, 1141, 1553
Water-Cooled Slag, 475, 899
Water/Cement Ratio, 495
White Portland Cement, 1367
Workability, 193, 245, 303, 703, 959, 1169, 1203, 1793, 1815
X-ray Diffraction, 13, 257, 287, 397, 449, 577, 641, 853, 893, 1257, 1373, 1561
Yield Stress, 731
Zeolite, 271, 1437
Zinc, 1327, 1561

